

ABSTRACT OF THE DISCLOSURE

A three-dimensional photographing apparatus includes a photographing unit configured to photograph an object from a plurality of viewpoints and a
5 projecting unit configured to project a pattern on the object in photographing. The projecting unit including an optical system having a projection view angle. The projection view angle of the optical system falls within a range where the photographing unit photographs
10 the object and is set so as to project the pattern on an overlapped area which is formed by overlapping photographing spaces capable of photographing the object from the viewpoints.